Séminaire d'analyse

UNIVERSITÉ LAVAL

19 Septembre 2014

13h30

Local 2810

Conférencier

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Titre

Nodal sets and growth of Laplace eigenfunctions on surfaces

Résumé

We will discuss a new result that exhibits a relation between the average local growth of a Laplace eigenfunction on a closed surface and the global size of its nodal set. More precisely, we provide a lower and an upper bound to the Hausdorff measure of the nodal set in terms of the expected value of the growth exponent of an eigenfunction on disks of wavelength like radius. Combined with Yau's conjecture, the result implies that the average local growth of an eigenfunction on such disks is bounded by constants in the semi-classical limit. We also will discuss results that link the size of the nodal set to the growth of solutions of planar Schrödinger equations with small potential